

**REMARKS**

The Office Action of June 26, 2003 has been received and carefully reviewed and the foregoing amended claims and the following comments are a complete response thereto.

Claims 1-12 are all the pending claims.

The Examiner has required restriction in the above-identified application as follows:

- I. Claims 1-10 and 12, drawn to a process for recovering HCl from chlorine based waste, classified in class 423, subclass 488; and
- II. Claim 11, drawn to a method of using the hydrogen chloride, classified in class 570, subclass 226.

In a telephone restriction requirement on May 8, 2003, Applicants elected Claims 1-10 and 12 with traverse as to Claim 11, and hereby affirm the election with traverse. Applicants submit that examination of Claim 11 would not pose an undue burden on the Examiner, and respectfully request examination of Claim 11.

By this Amendment, Claims 8 and 12 have been amended to correct typographical errors and these amendments do not change the scope of the claimed subject matter. No new matter has been added, and consideration and entry of the amended claims is requested.

Applicants acknowledge the telephone interview of July 29, 2003 with the Examiner discussing the Examiner's citations to German language disclosure in the EP 0619268 reference as discussed below.

**1. Response to Rejection of Claim 8 under 35 U.S.C. §112, second paragraph, for indefiniteness.**

Claim 8 is proper in its antecedency for reciting "the obtained purified hydrogen chloride gas", making the claim clear and definite.

## II. Response to Rejection of Claims 1-10 and 12 under 35 U.S.C. §103(a)

Claims 1-10 and 12 are rejected under 35 U.S.C. §103(a) for obviousness over EP 0619268 (hereinafter “EP ‘268”).

The Examiner relies upon EP ‘268 in her obviousness rejection of Claims 1-10 and 12 for disclosing a gas scrubbing and azeotropic distillation system for HCl purification from chlorous waste. According to the Examiner, EP ‘268 discloses removing elemental chlorine by adding a reducing agent such as hydrazine (Col. 6, lines 41-44), ammonium bisulfite or ammonium sulfite (Col. 3, line 18) to the crude acid formed after the incinerating/scrubbing steps and before the distillation step, followed by distilling this solution with an entrainer to obtain an HCl gas.

The Examiner does not consider the point at which the reducing agent is introduced into the system as a patentable distinction since the Examiner considers the purpose being only to remove elemental chlorine from the crude acid solution. Additionally, the Examiner considers regulating the redox potential through the amount of reducing agent added to the system as being obvious and within ordinary skill of the art.

With respect to the subject matter of Claims 2 and 10, the Examiner takes official notice that automatic control measures (Claim 2) and liquifying HCl gas (Claim 10), respectively, were common knowledge in the art.

Applicants traverse and submit that the reference does not present a *prima facie* case of obviousness under §2143 of the MPEP, namely, the reference does not provide sufficient motivation to modify the disclosure to obtain the present claimed invention, a reasonable expectation of success nor the teaching of the invention as a whole, and therefore, the claims are nonobvious.

The subject invention is a method characterized by obtaining a) a crude hydrogen chloride aqueous solution at an oxidation-reduction potential of below 900 mV, preferably 600-850 mV,

and b) the crude hydrogen chloride aqueous solution by reacting water and a reducing agent with an acid gas obtained by the combustion of chlorine-based waste. Under reaction conditions limited by the oxidation-reduction potential, the reduction of substantially all of the acid gas such as Cl<sub>2</sub> and NO<sub>x</sub>, can be achieved using only a minimum amount of the reducing agent.

Independent Claims 1 and 12 recite an essential element of adding a reducing agent to the reaction to achieve a redox potential being not more than 900 mV and 600-850 mV, respectively. “When the oxidation-reduction potential is maintained in this range, substantially all oxidative gas components can be reduced.” (See, page 8, lines 15-18 of the specification). However, achieving this redox potential in a short period of time at the start of the reaction and maintaining the potential throughout the reaction are also critical to the success of the claimed methods (See, for example, page 8, lines 24-32).

Specifically, Examples 1-3 of the specification demonstrate the criticality of ranges (§ 2144.05 of the MPEP) for the redox potential in obtaining a clear, colorless purified HCl product with non-detectable levels of Cl<sub>2</sub>. Comparative Examples 1 and 2 in the specification demonstrate that regardless of the reducing agent used in the method, achieving a redox potential in the range of 600-900 mV is important for obtaining the claimed product, otherwise, redox potentials falling outside of this range yield HCl containing impurities such as Cl<sub>2</sub>.

As noted by the Examiner in the Office Action on page 5, lines 7 and 8, EP ‘268 does not teach the range for the redox potential of the reaction. Applicants’ English language translation of the cited reference does not even teach or suggest a single concentration for the reducing agent (i.e., ammonium bisulfite, ammonium sulfite and hydrazine), a redox potential for the acid aqueous solution, an optimum concentration range for the reducing agent in order to achieve an optimum range for the redox potential of the solution, the temperature of the reaction, the duration of the reaction between the acid aqueous solution and the reducing agent much less the

concentration of residual chlorine after reduction. In other words, EP '268 is silent with respect to a method for achieving the results of Applicant's method, namely, using only a minimum amount of reducing agent. With respect to this aspect of the rejection, Applicants submit that the Examiner has improperly relied on hindsight in reaching her obviousness rejection over EP '268 (§2142 of the MPEP).

Another distinguishable feature of Claims 1 and 12 is the distillation step of the process. The distillation step of Claims 1 and 12 specifically omits the addition of an entrainer whereas the distillation step of EP '268 requires its addition to facilitate an azeotropic reaction. EP '268 does not teach or suggest that an entrainer is optional in the production of the purified HCl gas. Applicants' specification does not disclose adding an entrainer to the distillation step. The omission of the entrainer element with retention of the distillation of the HCl aqueous liquid into HCl gas is an indicia of nonobviousness under §2144.04 of the MPEP and the decision of In re Edge (149 USPQ 556 (CCPA 1966).

The Examiner takes official notice of the "automation" means recited in Claim 2 and the liquifying of HCl gas in Claim 10 as being conventional or known in the art at the time of the invention. Applicants submit that it is never appropriate to rely solely on "common knowledge" in the art without evidentiary support in the record, as the principal evidence upon which a rejection is based. As the court held in In re Zurko, 258 F.3d 1379, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001), an assessment of basic knowledge and common sense that is not based on any evidence in the record lacks substantial evidence support.

In as much as Claims 2-10 depend from Claim 1, and Claim 1 is nonobvious for all of the reasons discussed above, Claims 2-10 are also nonobvious.

Accordingly, EP '268 does not provide any motivation to modify its disclosed method by a) regulating redox potential ranges much less that modulating the range would be critical in

affecting the outcome of the reaction (i.e., producing a greater yield of HCl in the acidic aqueous solution) or b) omitting the entrainer from the distillation step of the process.

In relying on EP '268, one skilled in the art would not have had a reasonable expectation of success in obtaining a purified HCl gas using a scrubbing and distillation method as presently claimed. EP '268 does not teach or suggest that a higher yield of purified HCl gas can be obtained by regulating the redox potential of the crude acidic liquid or passing the reduced crude acidic liquid through a distillation apparatus without adding an entrainer to the liquid. Applicants demonstration of the recovery of a purified HCl gas using the methods of Claims 1 and 12 is an unexpected result over the cited reference.

The reference also does not teach or suggest the claimed invention as a whole. In other words, the claims are nonobvious for the method of recovering purified HCl gas from chlorous waste by producing an acidic gas from the incinerated waste, adding water and a reducing agent to the acidic gas to achieve a redox potential of not more than 900 mV, and preferably, 600-850 mV, for obtaining an HCl liquid, and distilling from the reduced HCl liquid the purified HCl gas.

The Examiner's obviousness rejection fails for all of the foregoing reasons and withdrawal of the rejection is deemed proper.

## CONCLUSION

In view of the foregoing amended claims and Applicants' arguments, Applicants submit that the Examiner's rejections of the claims under 35 U.S.C. §§ 103(a) and the second paragraph of 112, have been met and overcome. That is clear differences exist between the present invention claimed and the reference relied upon by the Examiner. These differences are more than sufficient that the present invention as claimed, would not have been obvious to one of ordinary skill in the art at the time the invention was made viewing that art. Applicants submit that the claims as well as the entire application are now in condition for allowance, and the Examiner is requested to allow this application to pass to issuance.

Respectfully submitted,

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**FULL TEXT OF CASES (USPQ2D)**

All Other Cases

In re Zurko, 59 USPQ2d 1693 (CA FC 2001)

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In re Zurko, 59 USPQ2d 1693 (CA FC 2001)

**59 USPQ2D 1693**  
**In re Zurko**

**U.S. Court of Appeals Federal Circuit**

**No. 96-1258**  
**Decided August 2, 2001**

**Headnotes**

**PATENTS**

**[1] Patentability/Validity — Obviousness — Combining references (§115.0905)**

**JUDICIAL PRACTICE AND PROCEDURE**

**Procedure — Judicial review — Standard of review — Patents (§410.4607.09)**

Decision of Board of Patent Appeals and Interferences sustaining obviousness rejection of patent application for method of improving security in computer system is reversed, even though board's factual findings underlying its determination are reviewed under "substantial evidence" standard, since prior art references relied upon by board do not teach limitation requiring communications between user and "trusted" environment along "trusted" path, and since deficiencies of references cannot be remedied by reliance upon additional combination of alternative references cited for first time on appeal, or by board's general conclusion, unsupported by evidence in record, that requiring communication with trusted environment over trusted path would be "basic knowledge" or "common sense" to person of ordinary skill in art; although board's expertise alone may provide sufficient support for conclusions as to peripheral issues, its core factual findings in patentability determinations must be supported by concrete evidence in record.

**Case History and Disposition**

On remand from the U.S. Supreme Court.

Patent application of Mary E. Zurko, Thomas A. Casey Jr., Morie Gasser, Judith S. Hall, Clifford E. Kahn, Andrew H. Mason, Paul D. Sawyer, Leslie R. Kendall, and Steven B. Lipner, serial no.

07/479,666 (method for improving security in a computer system). Board of Patent Appeals and Interferences sustained examiner's rejection of application under 35 U.S.C. §103. The U.S. Court of Appeals

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for the Federal Circuit reversed on appeal (42 USPQ2d 1476). On rehearing en banc, the Federal Circuit held (46 USPQ2d 1691) that proper standard of review for fact findings underlying patentability determinations by Patent and Trademark Office is "clearly erroneous" standard, rather than more deferential standard found in Administrative Procedure Act. The U.S. Supreme Court reversed the Federal Circuit's en banc decision and remanded, holding (50 USPQ2d 1930) that PTO's findings of fact must be reviewed under either "substantial evidence" or "arbitrary and capricious" APA standards of review. On remand, the Federal Circuit again reverses board's decision.

**Attorneys:**

Linda Moncys Isacson, associate solicitor, John M. Whealan, solicitor, and Kenneth R. Corsello and Thomas J. Finn, associate solicitors, U.S. Patent and Trademark Office, Arlington, Va., for Commissioner of Patents and Trademarks.

John F. Sweeney, Michael O. Cummings, Jon T. Hohenthaler, Israel Blum, Steven F. Meyer, and Brenda Pomerance, of Morgan & Finnegan, New York, N.Y.; Irene Kosturakis and Russell T. Wong, of Compaq Computer Corp., Houston, Texas; Ernest Gellhorn, Washington, D.C.; Janice M. Mueller, of Suffolk University Law School, Boston Mass.; Ronald C. Hudgens, of Digital Equipment Corp., Maynard, Mass., for Mary E. Zurko et al.

**Judge:**

Before Newman, circuit judge, Archer, senior circuit judge, and Michel, circuit judge.

### Opinion Text

**Opinion By:**

Archer, S.J.

This case is before us on remand from the Supreme Court of the United States. *Dickinson v. Zurko*, 527 U.S. 150, 50 USPQ2d 1930 (1999) ("*Zurko III*"). In *Zurko III*, the Court reversed our judgment and remanded the case because we had reviewed the factual findings of the Board of Patent Appeals and Interferences ("Board") for clear error, an incorrect standard of review.

The Board decision at issue, *Ex parte Zurko*, No. 94-3967 (Bd. Pat. Apps. & Int. Aug. 4, 1995), sustained the rejection of U.S. Patent Application No. 07/479,666 ("the '666 application") under 35 U.S.C. §103 (1994). In our initial review of this decision, we determined that the Board's findings were clearly erroneous and we reversed. *In re Zurko*, 111 F.3d 887, 42 USPQ2d 1476 (Fed. Cir. 1997) ("*Zurko I*"). At the Commissioner's suggestion, we then reheard this case en banc to reconsider the question of the appropriate standard of review. The Commissioner argued that Board findings should be reviewed under the standards of the Administrative Procedure Act (APA), namely the substantial evidence or arbitrary and capricious standard. 5 U.S.C. §706 (1994). The en banc court held, however, that clear error was the correct standard of review for Board findings of fact and adopted the conclusions of the original panel decision. *In re Zurko*, 142 F.3d 1447, 46 USPQ2d 1691 (Fed. Cir. 1998) ("*Zurko II*").

The Commissioner then petitioned for review by the Supreme Court, and the Court reversed, holding that Board findings of fact must be reviewed under the APA standards of review. The Court did not

specify which APA standard of review to apply, substantial evidence or arbitrary and capricious. We subsequently decided this question in *In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (Fed. Cir. 2000), and held that substantial evidence is the correct APA standard of review for Board factual findings.

We now revisit the merits of our decision in *Zurko I*, applying the proper APA standard of review. In doing so, we conclude that the outcome of this case does not change with the application of this new standard of review. Because the factual findings underlying the Board's decision are not supported by substantial evidence, we reverse.

## BACKGROUND

The '666 application concerns a method for more efficiently creating a secure computer environment. Secure, or "trusted," computer environments employ trusted software designed to preclude unauthorized users and to prevent unintended or unauthorized commands. Such trusted software is often quite costly, compared to untrusted software, so it is desirable to minimize the amount of trusted software in the system. Applicants claim a method for processing trusted commands with a minimum of trusted software.

Representative claim one reads as follows:

1. A machine-executed method for executing a trusted command issued by a user on a computer system, the computer system including an untrusted computing environment and a trusted computing environment, said method comprising the steps of:

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- (a) parsing the trusted command in the untrusted computing environment to generate a parsed command;
- (b) submitting the parsed command to the trusted computing environment;
- (c) displaying a representation of the trusted command to the user through a trusted path;
- (d) receiving a signal from the user through a trusted path signifying whether the displayed representation accurately represents the user's intentions;
- (e) if the signal signifies that the displayed representation does not accurately represent the user's intentions, then preventing the execution of the parsed command;
- (f) if the signal signifies that the displayed representation accurately represents the user's intentions, executing the parsed command in the trusted environment.

As set forth in claim one, applicants' method involves processing and verifying a trusted command using both trusted and untrusted software. A trusted command is first processed by untrusted software to create a parsed command. The parsed command is then submitted to the trusted computer environment. Execution of this command requires verification along a trusted path. The parsed command is relayed to the user along a trusted path, and, if correct, the user can send a confirming signal back along this trusted path, allowing execution of the command. By processing a trusted command in this manner, the applicants contend they reduce the amount of trusted software. The applicants assert that the parsing step generally requires a large amount of software and that performing this step with untrusted software greatly reduces the amount of trusted code required to process a trusted command.

The Board sustained the Examiner's rejection of claims 1, 4, and 5 of the '666 application under 35 U.S.C. §103 based on two prior art references. The primary reference is the UNIX operating system, as described in the applicants' information disclosure statement ("IDS"). According to this description, the UNIX system employs both untrusted and trusted code. Furthermore, certain commands in a UNIX

system may be parsed in an untrusted environment, and then these parsed commands may be executed by “calling a trusted service that executes in a trusted computing environment.”

The secondary reference, also described in applicants’ IDS, is Dunford, FILER Version 2.20 (“FILER2”). This program repeats back potentially dangerous commands, requesting confirmation from the user before execution.

Considering the teachings of these two references, the Board concluded that the invention claimed by the '666 application would have been obvious. The Board commented that “the artisan would have been led from these teachings to take the trusted command parsed in an untrusted environment and submitted to the trusted computing environment, as taught by UNIX, and to display the parsed command to the user for confirmation prior to execution, as suggested by [FILER2].” *Ex parte Zurko*, slip op. at 6-7. According to the Board, this combination would render the claimed invention obvious.

The Board also responded to applicants’ arguments that neither reference discloses a trusted path communication to the user and that no teaching of the prior art references motivates the combination of these references to create the claimed invention. The Board said that communication along a trusted path, if not explicit in the prior art, is either inherent or implicit. *Id.* at 7. The Board further adopted the Examiner’s assertion that “it is basic knowledge that communication in trusted environments is performed over trusted paths.” *Id.* at 8. As for the motivation to combine these references, the Board concluded that it “would have been nothing more than good common sense” to combine the teachings of these references. *Id.* The Board noted that FILER2 taught the verification of dangerous commands in general, suggesting verification of the parsed command submitted to the trusted computing environment in UNIX. Because this verification occurs within a trusted environment, it is “basic knowledge,” according to the Board, that this verification would occur along a trusted path. *Id.* at 7-8.

Reviewing the Board’s decision in *Zurko I*, we held that “the Board’s finding that the prior art teaches, either explicitly or inherently, the step of obtaining confirmation over a trusted pathway [was] clearly erroneous.” *Zurko I*, 111 F.3d at 889, 42 USPQ2d at 1478. Indeed, we noted that neither reference relied upon by the Board taught communication with

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the user over a trusted pathway. *Id.*, 42 USPQ2d at 1479. We further held that the Board clearly erred in finding that the prior art teaches communicating with the user over both a trusted and an untrusted path. This finding was in conflict with the Board’s other finding that trusted communications must be over trusted paths. *Id.* at 890, 42 USPQ2d at 1479.

On remand, applicants urge that we maintain our reversal of the Board’s decision, arguing that the decision is legally flawed, or, alternatively, that the Board’s factual findings fail under the APA standard of review. The Commissioner responds that we must affirm the Board decision because its findings are supported by substantial evidence in the record.

## DISCUSSION

A claimed invention is unpatentable for obviousness if the differences between it and the prior art “are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art.” 35 U.S.C. §103(a) (1994); *Graham v. John Deere Co.*, 383 U.S. 1, 14, 148 USPQ 459, 465(1966). Obviousness is a legal question based on underlying factual determinations including: (1) the scope and content of the prior art, including what that prior art teaches explicitly and inherently; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at

17-18, 148 USPQ at 467; *In re Dembiczak*, 175 F.3d 994, 998, 50 USPQ 1614, 1616 (Fed. Cir. 1999); *In re Napier*, 55 F.3d 610, 613, 34 USPQ2d 1782, 1784 (Fed. Cir. 1995) (stating that the inherent teachings of a prior art reference is a question of fact). We review the ultimate legal determination of obviousness without deference. *In re Dembiczak*, 175 F.3d at 998, 50 USPQ at 1616. We review factual findings underlying this determination for substantial evidence. *In re Gartside*, 203 F.3d at 1311-16, 53 USPQ2d at 1772-75.

Substantial evidence is “such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938); *see also Zurko III*, 527 U.S. at 162, 50 USPQ2d at 1772-75. A review under this standard “involves an examination of the record as a whole, taking into consideration evidence that both justifies and detracts from the agency’s decision.” *In re Gartside*, 203 F.3d at 1312, 53 USPQ2d at 1773 (citing *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 487-88 (1951)). In addition, “the possibility of drawing two inconsistent conclusions from the evidence does not prevent an administrative agency’s finding from being supported by substantial evidence.” *Consolo v. Fed. Maritime Comm’n*, 383 U.S. 607, 619-20 (1966).

The substantial evidence standard has been analogized to the review of jury findings, and it is generally considered to be more deferential than the clearly erroneous standard of review. *Zurko III*, 527 U.S. at 162-63, 50 USPQ2d at 1936. The Supreme Court noted in *Zurko III*, however, that this generally recognized difference is “a subtle one,” so fine that in its review of case law in the *Zurko III* decision, the Court could not find any other case where a reviewing court had conceded that the standard of review made a difference. *Id.* Moreover, while appellate courts must respect agency expertise, the Court has “stressed the importance of not simply rubber-stamping agency fact finding.” *Id.* (citing *Universal Camera*, 340 U.S. at 477-78). Indeed, the Court observed that Federal Circuit judges “will examine [Board fact] findings through the lens of patent-related experience — and properly so, for the Federal Circuit is a specialized Court.” *Id.* The Court further noted that this “comparative expertise, by enabling the Circuit better to understand the basis for the [Board’s] finding of fact, may play a more important role in assuring proper review than would a theoretically somewhat stricter standard.” *Id.*

With this guidance from the Supreme Court in mind, we now reconsider the Board’s decision. Applicants urge that we reaffirm our conclusion in *Zurko I*, alleging numerous legal and factual errors in the Board decision. These arguments center around two issues. First, applicants argue that the prior art relied upon by the Board does not disclose one of the limitations of their claimed invention, namely communication between a trusted environment and the user along a trusted path. Second, applicants claim that there is no substantial evidence support for the Board’s finding of motivation to combine the cited references to yield the claimed invention. We only need to consider the first issue raised by applicants.

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[1] As to this first issue, the Commissioner apparently concedes that neither the UNIX IDS disclosure nor FILER2 teaches communications between the user and the trusted environment along a trusted path. Nevertheless, the Commissioner maintains that the Board’s findings concerning the content of the prior art are supported by four other references in the record.<sup>1</sup> The Commissioner argues that these additional references describe modified UNIX systems that allow communication over both trusted and untrusted paths. Therefore, the Commissioner argues, the Board’s general findings concerning the content of the prior art have substantial evidence support, as does its ultimate conclusion of obviousness.

We are unpersuaded by the Commissioner’s arguments. The Board’s conclusion of obviousness was based on the UNIX and FILER2 references. The Board’s findings with respect to these references simply cannot be supported by the alternative references identified by the Commissioner on remand. To

the contrary, these alternative references merely confirm the well-known fact that conventional UNIX systems do not allow communication between the user and the trusted environment along a trusted path. For example, Johrie et al., U.S. Pat. No. 4,918,653, comments that “[s]ome examples of prior art multi-user operating systems which have not provided an effective mechanism for establishing a trusted path include UNIX ....” Johrie, col. 1, II. 60-63.

The Commissioner also cannot now mend the Board’s faulty conclusion of obviousness by substituting these alternative references for those relied upon by the Board. This new combination of references would constitute a new ground for rejection, not considered or relied upon by the Examiner or the Board. It is well settled that it would be inappropriate for us to consider such a new ground of rejection. *In re Margolis*, 785 F.2d 1029, 1032; 228 USPQ 940, 942 (Fed. Cir. 1986); *see also Koyo Seiko Co., Ltd. v. United States*, 95 F.3d 1094, 1099 (Fed. Cir. 1996) (holding that “[t]he grounds upon which an administrative order must be judged are those upon which the record discloses that its action was based.”) (quoting *SEC v. Chenery Corp.*, 318 U.S. 80, 87 (1943)).

Finally, the deficiencies of the cited references cannot be remedied by the Board’s general conclusions about what is “basic knowledge” or “common sense” to one of ordinary skill in the art. As described above, the Board contended that even if the cited UNIX and FILER2 references did not disclose a trusted path, “it is basic knowledge that communication in trusted environments is performed over trusted paths” and, moreover, verifying the trusted command in UNIX over a trusted path is “nothing more than good common sense.” *Ex parte Zurko*, slip op. at 8. We cannot accept these findings by the Board. This assessment of basic knowledge and common sense was not based on any evidence in the record and, therefore, lacks substantial evidence support. As an administrative tribunal, the Board clearly has expertise in the subject matter over which it exercises jurisdiction. This expertise may provide sufficient support for conclusions as to peripheral issues. With respect to core factual findings in a determination of patentability, however, the Board cannot simply reach conclusions based on its own understanding or experience — or on its assessment of what would be basic knowledge or common sense. Rather, the Board must point to some concrete evidence in the record in support of these findings.<sup>2</sup> To hold otherwise would render the process of appellate review for substantial evidence on the record a meaningless exercise. *Baltimore & Ohio R.R. Co. v. Aderdeen & Rockfish R.R. Co.*, 393 U.S. 87, 91-92 (1968) (rejecting a determination of the Interstate Commerce Commission with no support in the record, noting that if the Court were to conclude otherwise “[t]he requirement for administrative decisions based on substantial evidence and reasoned findings — which alone make effective judicial review

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possible —would become lost in the haze of so-called expertise”). Accordingly, we cannot accept the Board’s unsupported assessment of the prior art.

## CONCLUSION

The Board’s conclusion of obviousness was based on a misreading of the references relied upon and, therefore, lacks substantial evidence support. Accordingly, the Board’s judgment is reversed.

*REVERSED.*

## Footnotes

<sup>1</sup> Specifically, the Commissioner points to Johrie et al, U.S. Pat. No. 4,918,653; E.J. McCauley et al., *KSOS: The Design of a Secure Operating System*, Ford Aerospace and Communications Corp. (1979); Stanley R. Ames, Jr. et al., *Security Kernel*

*Design and Implementation: An Introduction*, IEEE Cat. No. 830700-001 (July 1983); and Simon Wiseman et al., *The Trusted Path Between Smite and the User*, Proceedings 1988 IEEE Symposium on Security and Privacy (April 18-21, 1988).

2 As described above, we cannot accept the Commissioner's invitation to now search the record for references in support of the Board's general conclusions concerning the prior art. Even if any such references could support these conclusions, it would be inappropriate for us to consider references not relied upon by the Board. *In re Margolis*, 785 F.2d at 1032; 228 USPQ at 942.

**- End of Case -**

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**FULL TEXT OF CASES (USPQ FIRST SERIES)**  
In re Edge, 149 USPQ 556 (CCPA 1966)

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In re Edge, 149 USPQ 556 (CCPA 1966)

## **In re Edge**

**(CCPA)**  
**149 USPQ 556**

**Decided May 5, 1966**

**Appl. No. 7618**

**U.S. Court of Customs and Patent Appeals**

### **Headnotes**

## **PATENTS**

### **1. Patentability-Aggregation or combination-Omission of part (§ 51.161)**

While it may often be true that mere omission of element together with its function does not produce a patentable invention, it may also be unobvious to omit an element while retaining its function.

#### **Particular patents-Business Card**

Edge, Business Bonus Card, claim 1 of application allowed; claims 6 to 8

#### **Case History and Disposition:**

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Appeal from Board of Appeals of the Patent Office.

Application for patent of Leonard Edge, Serial No. 219,918, filed Aug. 28, 1962; Patent Office Group 470. From decision rejecting claims 1 and 6 to 8, applicant appeals. Affirmed as to claims 6 to 8; reversed as to claim 1; Kirkpatrick, Judge, dissenting in part without opinion.

#### **Attorneys:**

Arthur H. Seidel and Joel S. Goldhammer, both of Philadelphia, Pa., for appellant.

Joseph Schimmel (Jere W. Sears of counsel) for Commissioner of Patents.

**Judge:**

Before Rich; Acting Chief Judge, Martin, Smith, and Almond, Associate Judges, and Kirkpatrick, Judge.

**Opinion Text****Opinion By:**

Rich, Acting Chief Judge.

This appeal is from the decision of the Patent Office Board of Appeals affirming the examiner's rejection of claims 1 and 6-8 in application serial No. 219,918, filed August 28, 1962, for "Business Bonus Card." No claim is allowed.

The invention is a business card, and method of making same, to be used by supermarkets, race tracks, movie theaters, etc., as a business inducing device. The card, of such size as to permit carrying in the customer's wallet, is of paper-like material and contains numerals printed in partitioned areas, usually located around the periphery but possibly elsewhere, which are punched out by an employee of the establishment to designate such matters as the amount of purchases made or the number of weeks of patronage. Also on the card is another indicium, representing the amount of the customer's bonus to which he is entitled once the card has been fully punched, but prior to which time the indicium is obscured from view. It is in the manner of concealing this indicium that appellant's invention resides, all other above discussed features admittedly being old.

Claims 1 and 6 are illustrative (emphasis ours):

1. A business bonus card comprising a layer of paper-like material having a front face and a rear face, means on said layer of paper-like material for providing a record indicative of the occurrence of a plurality of business transactions, indicia on one of said faces, *and a thin layer of metal bonded directly to said one face obscuring said indicia and capable of being erased to enable the denomination of said indicia to be ascertained.*
6. A method of making a business bonus card having a plurality of designated areas which are to be punched as a result of transaction of business comprising the steps of printing indicia on a face of the business card, and obscuring the indicia by bonding a layer of metal directly to the card over the indicia.

Claim 7 qualifies the metal bonding step as including "spraying bronze powder on the card." Claim 8 qualifies this step as including "applying gold foil to the card by a hot pressing operation."

The issue is patentability over the following references:

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The Washington Post, page C-8, May 31, 1962.

Hoese, 2,999,698, Sept. 12, 1961.

Neville et al., 2,961,777, Nov. 29, 1960.

Troubleshooting Trainer-Tester, Copyright 1954.

The Washington Post disclosure sets out a sales promotional card quite like appellant's, the sole significant difference being that the indicia-obscuring means is a rectangular panel of relatively heavy, high tensile strength, opaque leatherette paper which is attached to the card by zigzag stitching in such manner as allegedly to prevent unnoticed removal and replacement.

Hoese discloses details of a card like that in The Washington Post, and will not be considered further since the pertinent disclosure of the two references is essentially the same.

Neville et al. (hereinafter Neville) discloses special guide and answer sheets for use in training electronics technicians, although the applicability of the invention, according to the patentees, "includes, but is not limited to, the fields of education, entertainment and *sales promotion or advertising*. The invention consists of printing on a sheet, *an overlaying transparent and relatively erasure-proof protecting layer* and an erasable or removable opaque covering applied over the protecting layer, so as to obscure the original printing until the erasable covering is removed." (Emphasis ours.) The invention is said to represent an improvement over the invention disclosed and claimed in a patent to Buitenkant, which, *inter alia*, "discloses an ink covering system, the obscuring part of which can be removed by erasure to expose the concealed answers." As explained in the solicitor's brief, Neville's improvement appears to reside in the provision of the intermediate transparent protective layer, thereby preventing destruction of the printed indicia during erasure of the obscuring cover. Neville's opaque covering is an ink film, containing up to about 50% pigment which *may* consist of titanium dioxide, aluminum powder or other opacifying material. If electrical machine grading is desired, a conductive opaque ink film consisting of "finely divided metallic powder, such as bronze powder" may be dusted onto a suitable size or glue previously overlaid on the intermediate layer.

The Troubleshooting Trainer-Tester reference is an actual answer sheet of the type disclosed in Neville and, as stated by the solicitor, "adds little of interest."

With regard to claim 1, the essence of the examiner's position, accepted by the board, is:

To substitute for the covering material of the Washington Post Disclosure [sewed on leatherette], a metallic coating which may be removed by erasing would involve no more than the substitution of one equivalent material for another. In Neville et al., an intermediate layer of material is positioned between the indicia and the covering to prevent the removal of the indicia. To omit this safeguard and its function would involve no more than a matter of choice.

We disagree with this reasoning for two reasons. First, the issue is not one of equivalence, but obviousness under 35 U.S.C. 103. As stated in *In re Flint*, 51 CCPA 1230, 330 F.2d 363, 141 USPQ 299, 302:

We agree with appellant and consider as dispositive the rationale of our recent opinion in *In re Scott*, 51 CCPA 747, 323 F.2d 1016, 139 USPQ 297, 299 at [1] wherein we said:

The examiner and the board appear to hold that the mere existence of "functional and mechanical equivalence" establishes "obviousness." We think this involves a non sequitur. Expedients which are functionally equivalent *to* each other are not necessarily obvious *in view of* one another. The statutory mandate of 35 U.S.C. 103 is that the claimed subject matter be unobvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains.

[1] Second, as to the examiner's point about omission of Neville's intermediate layer, together with its protective function, we agree with appellant that the function of this layer has been *retained*, not

omitted, in the present invention since appellant's metal layer can be erased without removing the printed indicia notwithstanding the fact that the metal layer is bonded *directly* to the face of the card. While it may often be true that the mere omission of an element together with its function does not produce a patentable invention, it may also be unobvious to omit an element while retaining its function. *In re Fleissner*, 46 CCPA 831, 264 F.2d 897, 121 USPQ 270, and cases there cited.

Being unable to find in the art any

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suggestion of a thin layer of metal bonded directly to a paper-like card, obscuring a printed indicia thereon, yet "capable of being erased to enable the denomination of said indicia to be ascertained," we reverse the rejection of claim 1.

With regard to the remaining claims, 6-8 directed to method, we are unable to find such limitations as the one just quoted, or any other serving to distinguish the claimed method from the prior art. We agree with the board, referring to claim 8, that:

We see nothing unobvious in the hot pressing step or in the use of gold foil \* \* \* because of the common use of gold foil and the claimed mode of application on covers of books, manuscripts, brochures, etc. of which we take judicial notice.

Claim 6 from which claim 8 depends is even broader calling for "bonding a layer of metal directly to the card over the indicia." It reads on hot pressing gold foil and is unpatentable for the same reasons as claim 8.

Claim 7 presents a somewhat closer question. Whereas we, like the board, "have some doubts that a sprayed pure bronze powder will adhere to a card surface" and note, moreover, that there is no disclosure in the specification either that the card surface is specially treated to secure the powder thereto or of a bonding carrier for the bronze powder, the fact is that an issue of operability of the invention, or of adequacy of disclosure, is not before us. The sole question is whether obscuring indicia on a paper-like card by bonding a layer of metal directly to the card by spraying bronze powder thereon is obvious.

As we view claim 7, the invention there defined differs from Neville's disclosure of dusting "a finely divided opaque [metallic] powder" only in that appellant bonds his powder "directly" onto the card, as opposed to an intermediate protective layer. We find this difference insufficient to render claim 7 patentable because, unlike article claim 1, claim 7 contains no limitation as to the capacity of the metal layer to be erased to permit reading the printed indicia. Nor do we construe the word "directly" to preclude use of some sort of sizing material which would serve merely to bond the powder to the paper.

The decision of the board as to claim 1 is *reversed* and as to claims 6, 7, and 8 is *affirmed*.

### **Dissenting Opinion Text**

#### **Dissent By:**

Kirkpatrick, Judge, dissents from the reversal of the rejection of claim 1.

Footnote \* United States Senior Judge for the Eastern District of Pennsylvania, designated to participate in place of Chief

Judge Worley, pursuant to provisions of Section 294(d), Title 28, United States Code.

**- End of Case -**

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